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SOVIET SCIENTISTS USE TRANSPARENT SKULL
 TO OBSERVE BRAIN FUNCTIONING

Until recently, observation of the functioning of a dog's brain was considered impossible by scientists and physiologists. Removal of the bone framework and the dura mater over the brain disrupts the normal conditions under which the brain functions. Pavlov strongly protested against severe traumata suffered by experimental animals during such an experiment.

Guided by Pavlov's teachings, Soviet scientists found a method to study the live brain in its natural state. Professor Klosovskiy and his assistant Balashov worked out a method for performing a direct experiment on the brain with the aid of a transparent skull. Using an experimental animal, cat or dog, they removed the bone of the skull and formed a plaster pattern over the dura mater over the brain. The pattern was then used to prepare an exact replica of the removed skull; a transparent plastic material was used. Following this, they removed the hard protective covering, placed the transparent skull over the brain, and hermetically sealed it to the base of the skull, using silver screws.

The transparent skull already has helped scientists to explain certain questions. Klosovskiy and Balashov conducted an experiment to ascertain whether the brain pulsates within an enclosed skull. Their experiment consisted of admitting an air bubble under the transparent skull through the screw openings. The experimenters found that the pulsation of the bubble increased and decreased in accordance with the rhythm of the blood vessels. When the screw opening was sealed off, the bubble remained still. The obvious conclusion reached by the experimenters was that the brain is unable to pulsate in a hermetically sealed space of the skull.

This new method of observing the brain will enable physiologists to study how the brain is influenced by the different conditions of the animal, and its reactions to the introduction of different medicines, as well as to numerous external irritations.

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